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## EUROPEAN PATENT APPLICATION

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(72) Inventor: Kwon, Oh-Kyong  
Songpa-ku, Seoul (KR)

(74) Representative: Modiano, Guido, Dr.-Ing. et al  
Modiano, Josef, Pisanty & Staub,  
Baaderstrasse 3  
80469 München (DE)

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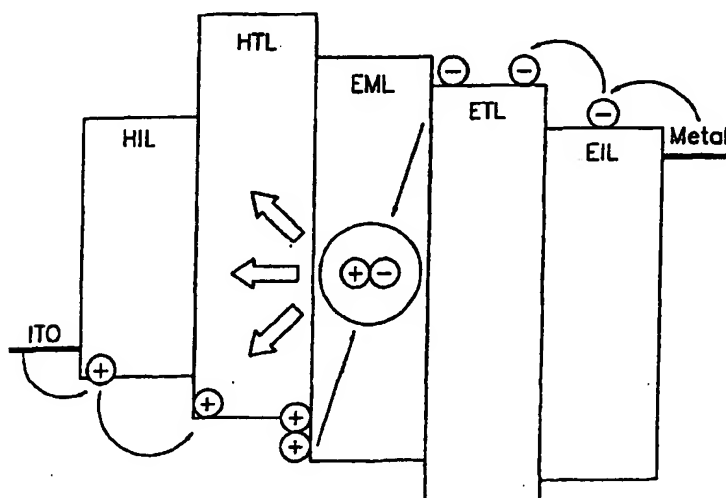
(71) Applicant: Samsung SDI Co., Ltd.  
Suwon-Si, Kyungki-do (KR)

### (54) Organic electroluminescent display, driving method and pixel circuit thereof

(57) Disclosed is an OLED and a pixel circuit which comprise: an organic EL element for emitting light corresponding to a supplied current; a first switch for switching data voltage supplied to a data line in response to a select signal supplied to a scan line; a first TFT for supplying the current to the organic EL element

in response to the data voltage supplied to a gate of the first TFT via the first switch; a second TFT having a gate coupled to the gate of the first TFT and compensating for a deviation of a threshold voltage of the first TFT; and a capacitor for maintaining the data voltage supplied to the gate of the first TFT during a predetermined time.

FIG.1





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# EUROPEAN SEARCH REPORT

Application Number  
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 11, 3 January 2001 (2001-01-03) - & JP 2000 221942 A (NEC CORP), 11 August 2000 (2000-08-11) * abstract *	1-3, 6, 15-19, 32	G09G3/32
Y	* the whole document * - & US 6 246 180 B1 (NEC CO.) 12 June 2001 (2001-06-12) * the whole document *	4, 20	
X	WO 99 65012 A (KONINKL PHILIPS ELECTRONICS NV ; PHILIPS SVENSKA AB (SE)) 16 December 1999 (1999-12-16) * the whole document *	1, 15-17	
X	US 6 091 203 A (SASAKI HIROSHI ET AL) 18 July 2000 (2000-07-18) * the whole document *	1, 15-17	
Y	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 15, 6 April 2001 (2001-04-06) - & JP 2000 347621 A (NEC CORP), 15 December 2000 (2000-12-15) * abstract * * the whole document * - & DE 100 28 598 A (NEC CO.) 29 March 2001 (2001-03-29) * the whole document *	4, 20	<div>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</div> <div>G09G</div>
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 23 July 2003	Examiner Harke, M
<div>CATEGORY OF CITED DOCUMENTS</div> <div> X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technological background  O : non-written disclosure  P : intermediate document  T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  I : document cited for other reasons  &amp; : member of the same patent family, corresponding document </div>			

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## EUROPEAN SEARCH REPORT

Application Number  
EP 01 12 5334

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	<p>INUKAI K ET AL: "4.0 in. TFT-OLED Displays and a Novel Digital Driving Method"</p> <p>2000 SID INTERNATIONAL SYMPOSIUM DIGEST OF TECHNICAL PAPERS. LONG BEACH, CA, MAY 16 - 18, 2000, SID INTERNATIONAL SYMPOSIUM DIGEST OF TECHNICAL PAPERS, SAN JOSE, CA: SID, US, vol. 31, 16 May 2000 (2000-05-16), pages 924-927, XP002196013</p> <p>* the whole document *</p> <p>-----</p>	2,9,18	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
The present search report has been drawn up for all claims			
Place of search <b>MUNICH</b>		Date of completion of the search <b>23 July 2003</b>	Examiner <b>Harke, M</b>
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>&amp; : member of the same patent family, corresponding document</p>			

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ON EUROPEAN PATENT APPLICATION NO.**

EP 01 12 5334

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23-07-2003

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
JP 2000221942	A	11-08-2000	US	6246180 B1	12-06-2001
WO 9965012	A	16-12-1999	EP	1034529 A2	13-09-2000
			WO	9965012 A2	16-12-1999
			JP	2002518691 T	25-06-2002
			US	2002126073 A1	12-09-2002
			US	6359605 B1	19-03-2002
US 6091203	A	18-07-2000	JP	3252897 B2	04-02-2002
			JP	11282419 A	15-10-1999
			TW	477156 B	21-02-2002
JP 2000347621	A	15-12-2000	JP	3259774 B2	25-02-2002
			DE	10028598 A1	29-03-2001
			US	6525704 B1	25-02-2003

EPO FORM P0159

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82